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EX PARTE OR LATE FILED

September 26, 1995

RECEIVED
SEP 26 1995
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

BY HAND

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: PR Docket No. 93-253
Ex parte Presentation

Dear Mr. Secretary:

On behalf of RAM Mobile Data USA Limited Partnership ("RMD"), and in accordance with 47 CFR 1.1206, attached to this letter are two hard copies of a number of Internet E-Mail messages, dated September 22, 1995, and September 23, 1995, sent to Evan R. Kwerel by Paul Milgrom concerning the activity rules that the Commission adopted for the 900 MHz specialized mobile radio license auction. Dr. Milgrom is acting as a consultant to RMD in connection with these rules.

Due to initial oversight and the intervening Jewish New Year, the filing of the attached was delayed. Please contact the undersigned if there are any questions.

Respectfully submitted,

Jonathan L. Wiener
Attorney for
RAM Mobile Data USA Limited Partnership

Attachments

cc: Evan R. Kwerel
Paul Milgrom
Steven T. Apicella

No. of Copies rec'd 0+1
List ABCDE

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From: Paul Milgrom (9/22/95)
To: ekwerel@fcc.gov
CC: Jonathan Wiener,
Mail*Link(r) Remote
Hello Evan:

This is a business communication from me on behalf of my client, RAM Mobile Data.

RMD's concern, which I believe is a valid one, is that the current rule will encourage more bid parking and similar strategic bidding by incumbents than an alternative rule that did not so sharply limit the ability of incumbents to switch to back-up strategies. The reason is that incumbents' "straightforward strategy" would be to bid for the remainder of the spectrum in the same block as their existing licenses in an MTA. However, adopting such a straightforward strategy would leave the incumbent limited flexibility to adjust to changing relative license prices. The problem for me is to try to find a suggestion that addresses my client's problem without compromising the integrity of the overall auction.

Cognizant of the risks involved in major software changes, I made a suggestion to RMD about a relatively simple-to-program rule change that would affect the course of the auction only if the scenario they envision is reflected in the actual auction. The rule calls for monitoring the prices of blocks in each MTA and changing the activity calculation only if, in stage 2 or 3, the auction price of a more encumbered block (which counts for a low activity credit) is higher than the price of a less encumbered block (with a high activity credit) in the same MTA. In that event, the low activity credit would be raised to match the higher credit in the same MTA, allowing bidders the flexibility to switch their bids between these licenses at will.

If the condition that triggers the rule materializes, that would indicate that the FCC had guessed wrong about the determinants of value in setting the activity rule. It would mean that value would be misaligned with unencumbered pops, even within a single MTA. (Let me quickly acknowledge that I know too little about this industry to have my own ideas about the determinants of value.)

I know this proposed rule is inelegant and even has the look of "a horse designed by a committee." I'm not unconcerned about the possibility for bidder confusion that a complicated rule entails. In terms of its economics, however, the rule has some appeal. If it actually happens that the license prices in ALL of the MTAs are ranked in the same order as the amount of unencumbered spectrum in them, then this rule will probably work just like the original. If the prices are independent of the degree of encumbrance, it will work almost as if the rule were one in which activity is unadjusted for encumbrances. And if the actual prices reflect RMD's concerns in just a few markets, then incumbents in the affected markets will be able to follow their logical backup strategies. In that case, the effect on the other MTA markets, while not zero, is likely to be small.

There are a few other incentive issues that need to be accounted for in evaluating any such proposal. One is the way the possibility of an increase in the "activity value" of a license affects bidding in earlier rounds. Bidders who are potentially interested in one of the highly encumbered licenses and who expect, as RMD does, that the future activity value of the license might increase would need to plan for that, possibly maintaining extra eligibility to be able to bid on it.

A second issues concerns the incentive for a bidder to attempt to manipulate the change in activity values by making or withholding bids. My initial analysis suggests that a bidder who does not want to face competition from an incumbent might try to "keep it in its place" by avoiding raising the bids in the more encumbered blocks. Under the scenario envisioned by the announced activity rule, such strategic bidding would be quite unnecessary. If it did become necessary, incumbents could benefit either from the flexibility rules or from the strategic disincentive the modified rule creates. Since this outcome assigns the encumbered licenses to the incumbent and the less encumbered license to the newcomer, this is probably still a

better outcome than might be expected under the announced activity rule.

The initial activity rule was really a patch on the simultaneous auction idea to make certain that it would proceed smoothly and end in a reasonable amount of time. We both know that, were it not for fears of making the rule too complex and hard for bidders and the public to understand, we could do better than the rule we currently have. Some have argued that even the old rule was too complicated. I recall that one of the Commissioner's attached a comment to that effect to the Second Competitive Bidding R&O. However, the evidence from the first three simultaneous auctions clearly suggests that the bidders were not confused by the rule and even thrived by exploiting it.

While I do not advocate arbitrary increases in complexity, I think the relative clarity about substitution possibilities that made the initial rule plausible for narrowband and broadband PCS has become muddier in the new applications. We need eventually to consider the possibility of an activity rule that allows a bidder to bid up to the maximum permitted using two (or more) different activity criteria. That approach may provide the flexibility the Commission needs where there is more than one good indicator of the possibility of substitution and especially where the indicators are sharply different. Of course, the opportunities for parking would also be increased by such a rule, so more discussion and analysis is needed.

You had asked me about principles for dealing with that problem when we met on September 8. This rule seems to be a possible step in the right direction. And, as I recall, the legislation specifically calls for experimentation with auction rules.

Perhaps we can discuss this further in a phone call.

Paul Milgrom

Mail*Link(r) Remote Activity rule issues
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To: ekwerel@fcc.gov
CC: Jon Wiener,
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Hi Evan:

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The problem of the time or times at which to apply that discretion is a troublesome one. What if there are several licenses in an MTA and their bids occasionally switch order? A one-shot extra eligibility doesn't really do the job, since the bidders in that case are still blocked from switching back and forth to respond to price differences, even if the licenses are actually perfect substitutes for the leading bidders. The other option is to add eligibility repeatedly and as needed late in the auction, but that could damage bidders' incentives to be active early in the auction (if they anticipate this scenario).

These problems favor considering again Jon Wiener's suggestion that the eligibility be added only for bidders who are active on the more expensive but more encumbered license, allowing them to bid on the less expensive, less encumbered license. That could be done repeatedly, indeed, in every round where is an active bidder for the more encumbered, more expensive license whose bid has just been bumped. This would need to be in the software, though, since if the relevant scenario occurs, many adjustments might be required.

Frankly, though, I like Wiener's suggestion because it is a minimal fix carefully tailored to the problem. I know the scary history of the auction software, but still think that this change could be feasible. It would require just a couple of lines of code in the program, checking for the condition on each license and adding to the eligibility of the bumped bidders if the condition were verified.

Given the holidays, I'm not sure when we'll talk next.

Paul Milgrom

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Hello Evan:

Since I think of the Wiener rule as now a leading candidate, I've given some systematic consideration to its weaknesses as well. I hope that this analysis will increase your confidence in the rule's workability.

The issues I've thought about are: (1) what manipulation incentives it affords to bidders and (2) how the rule would apply mechanically.

The rule was created with the idea that a bidder who repeatedly bids and is bumped from a heavily encumbered license B should retain the eligibility to switch to a less encumbered license A in the same MTA. If that is done by adding the difference in activity levels between A and B and if the bidder actually continues to bid on B and nothing else or if the bidder actually switches to A, then the Wiener rule would work as intended.

The problem arises when the bidder continues to bid on B but uses the extra eligibility from the bump rule to bid also on another license, say C. If bidding continues and the bidder is bumped on B again, it could continue to bid on B on use the extra eligibility to bid on yet another license, D. And so on. This can be continued because eligibility is added round after round, up to the level of the initial deposit.

The strategic possibilities this opens are troubling. A bidder that wished to increase its eligibility late in the auction in the RMD scenario and that had no actual interest in the affected licenses could engage in the strategy just described with the specific intent of increasing its eligibility for use elsewhere. From the points of view of both an incumbent and the FCC, this would be quite a bad thing, because it could lead to its price being bid up for strategic reasons beyond its economic value to competing bidders. My expectation is that few bidders would count on the ability to do this, and so wouldn't put themselves in a position of needing to do it. Still, it is a logical possibility and I hate to put too much confidence in anyone's estimates of probabilities of manipulations when those manipulations are possible.

What would be the cost of such strategic behavior? There are two. First, as already mentioned, prices on the low activity credit licenses would be driven up beyond their economic values, leading to possible misassignment of those licenses. Second, if the possibility of obtaining eligibility increases late in the auction enable bidders to reduce activity early in the auction, that could lead to a more time-consuming auction process.

Mechanically, my assessment is still that the Wiener rule wouldn't be hard to code. As I wrote before, it only requires that a condition be checked for each bumped bidder (one per license per round) and that an eligibility increment be added for that bidder before the next round eligibility report is produced.

The Wiener rule has the advantage that it does nothing if the FCC's current forecast of price relations is correct and forestalls one kind of strategic behavior that RMD has told us will occur if no changes are made. It does not eliminate all kinds of strategic manipulations, but we know as a theoretical matter that no rule can. If you believe that the current forecast is a good one, then the main cost of implementing the rule is the additional complexity. The benefit is that it would eliminate the strategic parking behavior that incumbents like RMD would otherwise be led to take. In short, if the FCC forecast is correct, then the Wiener rule will outperform the current rule. If the RMD scenario emerges but is not the one most bidders expect, then the Wiener rule will still outperform the current rule. Only if the RMD scenario is the one anticipated is the performance comparison ambiguous.

I am increasingly moving toward the view that the whole notion of activity rules for the FCC auctions needs careful reconsideration. The rule was

specifically designed for a broadband auction with a large number of licenses and with substitution possibilities driven primarily by budget limits and limits on total bandwidth in a geographic area. It seemed to work pretty well for auctions #1, #3, and #4, but perhaps it will work less well for the other kinds of auctions that the FCC now runs. We should plan to take up this whole issue at the Princeton auction conference this Fall.

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